



S/N 10/053003

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	Leonard Forbes	Examiner:	Robert M Kunemund
Serial No.:	10/053,003	Group Art Unit:	1765
Filed:	January 17, 2002	Docket:	1303.042US1
Title:	THREE-DIMENSIONAL COMPLETE BANDGAP PHOTONIC CRYSTAL FORMED BY CRYSTAL MODIFICATION		

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**TC 1700**

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

In compliance with the duty imposed by 37 C.F.R. § 1.56, and in accordance with 37 C.F.R. §§ 1.97 *et. seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicant respectfully requests that this Information Disclosure Statement be entered and the documents listed on the attached Form 1449 be considered by the Examiner and made of record. Pursuant to the provisions of MPEP 609, Applicant requests that a copy of the 1449 form, initialed as being considered by the Examiner, be returned to the Applicant with the next official communication.

Pursuant to 37 C.F.R. §1.97(c)(2), Applicants have included the fee of \$180.00 as set forth in 37 C.F.R. §1.17(p). Please charge any additional fees or credit any overpayment to Deposit Account No. 19-0743.

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Serial No :10/053003

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The Examiner is invited to contact the Applicant's Representative at the below-listed telephone number if there are any questions regarding this communication.

Respectfully submitted,

LEONARD FORBES

By his Representatives,

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Date 10-17-03

By 

Viet V. Tong

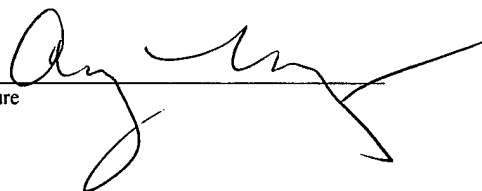
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**CERTIFICATE UNDER 37 CFR 1.8:** The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 17<sup>th</sup> day of October, 2003.

Name

Amy Moriarty

Signature

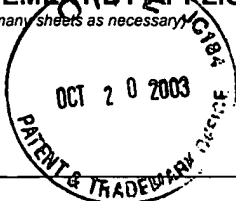


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STATEMENT BY APPLICANT**

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Application Number	10/053,003
Filing Date	January 17, 2002
First Named Inventor	Forbes, Leonard
Group Art Unit	1765
Examiner Name	Kunemund, Robert

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Attorney Docket No: 1303.042US1

**US PATENT DOCUMENTS**

Examiner Initial *	USP Document Number	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	Filing Date If Appropriate
	US-5,471,180	11/28/1995	Brommer, K. , et al.	333	202	12/06/1993
	US-5,526,449	06/11/1996	Meade, R. , et al.	385	14	07/14/1994

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Foreign Document No	Publication Date	Name of Patentee or Applicant of cited Document	Class	Subclass	T <sup>2</sup>
	EP-1030196	08/23/2000	Van Nest Braun, P. , et al.	G02 B	5/20	
	EP-1085352	03/21/2001	Hiraoka, T. , et al.	G02 B	6/12	
	JP-2001-093887	04/06/2001	Yukihiro, U.	H01L	21/306 5	
	WO-98/35248	08/13/1998	Fink, Y. , et al.	G02 B	6/138	

**OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		BIRNER, A. , et al., "Silicon-Based Photonic Crystals", <u>Advanced Materials</u> , VCH Verlagsgesellschaft, Weinheim, De, 13, (2001),377-388	—
		BLANCO, A , et al., "Large-scale synthesis of a silicon photonic crystal with a complete three-dimensional bandgap near 1.5 micrometres", <u>Letters to Nature</u> , 405, (2000),437	✓
		HO, K , et al., "Existence of a Photonic Gap in Periodic Dielectric Structures", <u>Physical Review Letters</u> , 65, (1990),3152-3155	✓
		JOANNOPOULOS, J D., et al., "Photonic Crystals", Princeton University Press,(1995),	✓
		MITSUTAKE, K , et al., "Theoretical Study on the Formation Process of Empty Space in Silicon (ESS)", <u>2000 International Conference on Solid State Devices and Materials</u> , (2000),198-199	>
		MIZUSHIMA, I. , "Empty-Space-in-Silicon Technique for Fabricating a Silicon-on-Nothing Structure", <u>Applied Physics Letters</u> , 77, American Institute of Physics, NY,(2000),3290-3292	✓
		NICHOLS, F A., "Surface-(interface) and volume-diffusion contributions to morphological changes driven by capillarity", <u>Transactions of the American Institute of Mining, Metallurgical and Petroleum Engineers</u> , 233(10), (1965),1840-8	✓
		SATO, T , "A new substrate engineering for the formation of empty space in silicon (ESS) induced by silicon surface migration", <u>International Electron Devices Meeting 1999. Technical Digest</u> , (1999),517-20	

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DATE CONSIDERED

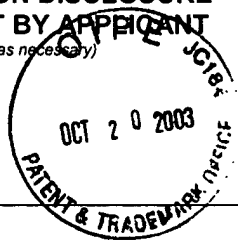
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**OTHER DOCUMENTS -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		YABLONOVITCH, E , Phys. Rev. Lett., 58, (1987),2059	
		YABLONOVITCH, E , et al., Phys. Rev. Lett., 67, (1991),2295	

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